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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,063

11/25/2003

Schang-Jing Hon

BHT-3244-10

4210

7590

06/06/2005

TROXELL LAW OFFICE PLLC
SUITE 1404
5205 LEESBURG PIKE
FALLS CHURCH, VA 22041

EXAMINER

TRAN, MINH LOAN

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,063

Applicant(s)

HON ET AL

Examiner

Minh-Loan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) 4-12 and 16-24 is/are withdrawn from consideration.
5) ☒ Claim(s) 1-3 is/are allowed.
6) ☒ Claim(s) 13-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II, claims 1-3 and 13-15 in the reply filed on 04/11/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. If applicant is aware of any relevant prior art, he/she requested to cite it on form **PTO-1449** in accordance with the guidelines set forth in M.P.E.P. 609.

Oath/Declaration

4. The oath or declaration filed on 11/25/2003 is acceptable.

Drawings

5. The drawings filed on 11/25/2003 are acceptable.

Specification

6. The abstract of the disclosure is objected to because the abstract should direct to the claimed invention i.e. Method for manufacturing GaN-based light emitting device. Correction is required. See MPEP § 608.01(b).
7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 13, line 17, "said n-type electrode" and lines 18, 19, "said p-type electrode" lack of antecedent basis.

In claim 15, line 1, "said metal reflector" lacks of antecedent basis.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (2004/0238832).

Figure 15 of Takahashi et al. discloses a method for manufacturing a light emitting device comprising the steps of forming a buffer layer 1202 over an upper side of the substrate 1201 wherein the substrate 1201 comprises material selected from the group consisting of sapphire, GaN, SiC; forming an n-type GaN based layer 1203 over the buffer layer 1202; forming an MQW active layer 1206 over the n-GaN based layer 1203; wherein the MQW active layer 1206 comprises InGaN/GaN so that the MQW active layer 1206 emits light with a wavelength of 380-600 nm upon an applied electric power; forming a p-GaN based layer 1209 over the MQW active layer 1206; forming p-type and n-type DBRs such that the MQW active layer 1206 is sandwiched by the p-type and n-type DBRs (see paragraphs [0332] and [0333] of Takahashi et al.); etching away a portion of the p-type GaN based layer 1209; the p-type DBR; the MQW active layer 1206 and the n-type GaN based layer 1203 whereby the n-type GaN based layer 1203 has an exposed region; disposing an n-type electrode 1211 over the exposed region of the n-GaN based layer 1203 and disposing a p-type electrode 1210 over the p-GaN based layer 1209.

Figure 15 of Takahashi does not disclose a step of forming the n-type DBR on the buffer layer 1202 and the p-type DBR on the MQW active layer 1206. However, paragraphs [0332] and [0333] of Takahashi et al. disclose the MQW active layer 1206 is sandwiched by the p-type and n-type DBRs. It would have been obvious to one of ordinary skill in the art to form the light emitting device comprising the steps of forming

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the n-type DBR on the buffer layer and the p-type DBR on the MQW active layer, because such structure is conventional in the art for forming a surface emitting laser diode.

Allowable Subject Matter

10. Claims 1-3 are allowed.

Claims 1-3 are allowable over the references of record because none of these references disclosed or can be combined to yield the claimed invention such as forming a p-type distributed Bragg reflector (DBR) over the MQW active layer, disposing an n-type electrode over the n-GaN based layer, disposing a p-type electrode over the p-GaN based layer and coating a metal reflector over a bottom side of the substrate as recited in claim 1.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Loan T. Tran whose telephone number is (571) 272-1922. The examiner can normally be reached on Monday-Friday 9:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mlt
5/2005



Minh-Loan T. Tran
Primary Examiner
Art Unit 2826